This document is intended to help readers understand the data and visualizations publicly disseminated by DC Health during the COVID-19 surveillance response.

General Guidelines for Interpreting Disease Surveillance Data

During a disease outbreak, the health department will collect, process, and analyze large amounts of information to understand and respond to the health impacts of the disease and its transmission in the community. The sources of disease surveillance information include contact tracing, medical record review, and laboratory information, and are considered protected health information. When interpreting the results of these analyses, it is important to keep in mind that the disease surveillance system may not capture the full picture of the outbreak, and that previously reported data may change over time as it undergoes data quality review or as additional information is added. These analyses, especially within populations with small samples, may be subject to large amounts of variation from day to day. Despite these limitations, data from disease surveillance is a valuable source of information to understand how to stop the spread of COVID-19.

Analysis specific interpretation guidance:

Total number of COVID-19 Positive Cases by Ward

Primary residential addresses of positive COVID-19 cases are assigned latitude and longitude coordinates based on their spatial location and classified into one of eight DC Wards, based on the current 2012 Ward boundaries. Individuals who are in a congregate housing setting (such as long-term care, homeless shelters, or are incarcerated) may be located at the address of the institution if a primary address is not available. Please note that an address may be missing, or the address may be missing parts (such as quadrant), which makes it impossible to geocode to determine the correct ward. When this happens, it is possible that the total number of positive cases in a specific area is underestimated, or lower than it truly is. Please note that these data represent DC-resident cases, only.

Total number of COVID-19 Positive Cases by Health Planning Neighborhood

Residential addresses of positive COVID-19 cases are geocoded and classified into one of 51 DC Health Planning Neighborhoods. Individuals who are in a congregate housing setting (such as long-term care, homeless shelters, or are incarcerated) may be located at the address of the institution if a primary address is not available. Please note that an address may be missing, or the address may be missing parts (such as quadrant) that make it impossible to geocode and determine the correct statistical neighborhood. When this happens, it is possible that the total number of positive cases in a specific area is underestimated, or lower than it truly is.

The DC Health Planning Neighborhoods were created to align with census tracts and roughly follow, where possible, the 38 neighborhood clusters used by the DC Office of Planning. The DC Health Planning Neighborhoods were used as the basis of the DC Health Equity Report (2018). Since that time, there have been two slight modifications to the boundaries (Lincoln Park was included together with Capitol Hill and GWU/National Mall was separated into two neighborhoods). Please note that these data represent DC-resident cases, only. For more information about the DC Health Planning Neighborhoods, please see: https://opendata.dc.gov/datasets/dc-health-planning-neighborhoods

Age-adjusted COVID-19 Incidence Rates by Ward

The age-adjusted incidence rate of COVID-19 is presented for each Ward. DC Health uses this method of rate calculation as some age groups are more likely to have higher rates than others. Additionally, the severity of COVID-19 symptoms increases with age, which may result in a higher level of case detection of COVID-19 in older age-groups. This method of adjustment (also referred to as the direct method of standardization) allows us to ask: "if each of the wards had the same age composition, what would the cumulative incidence of COVID-19 look like in these areas?" This method is often used to compare rates across different geographic areas where one area might have an older population than the other and as a result may be more likely to have a specific outcome. And the age-specific rates allow us to compare the cumulative incidence of COVID-19 across wards where one ward may have an older population than another ward.

The 2014-2018 American Community Survey (U.S. Census Bureau) is used to obtain the age distribution in each ward and the age distribution of the 2000 U.S. Standard Population is used for standardization. This rate is presented per 100,000 U.S. Standard Population.

As noted previously, an address may be missing, or the address may be missing parts of the address (such as quadrant), which make it impossible to geocode to determine the correct ward. When this happens, it is possible that the total number of positive cases in a specific area is underestimated, or lower than it truly is. In addition, cases with missing age are not included in these estimates.

Hospitalization data
Hospital Census and Bed Availability at District Acute Care Hospitals; Ventilator Use and Availability at District Hospitals

Aggregate numbers for both the total and COVID-19-specific in-patients, intensive care unit (ICU) patients, and ICU patients on mechanical ventilation are reported daily to DC Health by the District's acute care hospitals[1]. Skilled nursing facilities and other long-term care facilities also provide these data, if applicable. These data are reported by the facility administration through an online reporting application as well as by email to DC Health.

These data are self-reported by hospitals and are validated, when possible, by comparing to hospital specific line lists that provide patient-level data for COVID-19 positive inpatients. DC Health is unable to validate data from every facility as some facilities do not provide daily patient-level line lists. Because these data are being presented as real-time as possible, if a hospital fails to report these data on a specific day, values from the day before are used to impute the missing value as a way to avoid presenting artificial dips in measures. Information from the day prior is the closest DC Health can get to the true number, when no information is provided. A team from DC Health will conduct chart reviews of COVID-19 positive patients across facilities to assist with validation and address data gaps. These data are reported by hospitals once each day and are, therefore, subject to change throughout the day due to patient admissions and discharges. DC Health will only be presenting ventilator data for adult ventilator use and not pediatric.

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[1] An acute care hospital provides inpatient medical care and other related services for surgery, acute medical conditions or injuries. Centers for Medicare and Medicaid Services: https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ResearchGenInfo/Downloads/DataNav_Glossary_Alpha.pdf

Horizontal lines are provided in both figures to denote the various levels of hospital operation for the District. Lines depicting standard operation describe what capacity is for hospitals in DC under normal operating circumstances. Lines depicting medical surge within hospitals denote the capacity of hospitals to take in a larger number of patients above normal operations. Lines depicting medical surge within hospitals and alternate sites denotes the total number of patients that can be taken in by hospitals with the addition of alternate sites. The various hospital operation levels are provided by the Health Emergency Preparedness and Response Administration (HEPRA) at DC Health.